120

Docket No.

6388-0501-0

IN RE APPLICATION OF: Beatrice

SERIAL NO: 09/533,361

FILED:

March 22, 2000

FOR:

TIGHTENING AGENT COMPRISING AT LEAST ONE GRAFTED SILICONE POLYMER

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

RECEIVED

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SIR:

Transmitted herewith is an amendment in the above-identified application.

TECH CENTER 1600/2900

- ☐ No additional fee is required
- ☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.
- Additional documents filed herewith: Petition for Extension of Time; Appeal Brief w/Appendix (In Triplicate); Supplemental Amendment and Request for Reconsideration (13 pp.)

The Fee has been calculated as shown below:

CLAIMS	CLAIMS REMAINING		HIGHEST NUMBER PREVIOUSLY PAID	NO. EXTRA CLAIMS		RATE		CALCULATIONS
TOTAL	35	MINUS	56	0	х	\$18	=	\$0.00
INDEPENDENT	6	MINUS	6	0	х	\$86	=	\$0.00
	☐ MULTIPLE DEPENDENT CLAIMS			+	\$290	=	\$0.00	
		TOTAL OF ABOVE CALCULATIONS						\$0.00
		☐ Reduction by 50% for filing by Small Entity						\$0.00
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						TOT	'AL	\$0.00

- A check in the amount of \$750.00 is attached for the two-month extension of time and the Appeal Brief.
- ☐ Credit card payment form is attached to cover the fees in the amount of **\$0.00**
- Please charge any additional Fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.
- If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time may be charged to Deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.

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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF

:

BEATRICE TOUMI ET AL.

EXAMINER: L. WELLS

SERIAL NO: 09/533,361

33,301

FILED: MARCH 22, 2000

GROUP ART UNIT: 1617

FOR: TIGHTENING AGENT COMPRISING

AT LEAST ONE GRAFTED SILICONE POLYMER

APPEAL BRIEF

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

SIR:

Appellants submit this brief in response to the Final Rejection dated May 6, 2003.

REAL PARTY IN INTEREST

The real party in interest herein is L'Oréal S.A. of Paris, France.

RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge, there are no other appeals or interferences which will directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

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STATUS OF CLAIMS

Claims 1-3, 17-22 and 24-47 are pending, although Appellants have submitted a supplemental amendment herewith requesting cancellation of claim 2.

STATUS OF AMENDMENTS

The amendments submitted in the Amendment and Request for Reconsideration filed August 6, 2003, were not entered. Thus, all amendments filed in this case on or before March 18, 2003, have been entered and considered.

Appellants request that the attached supplemental amendment be entered changing the dependency of claims 17, 19, 22, 25 and 26 and canceling claim 2. Appellants respectfully submit that by changing the dependency of claims 17 and 22, the rejection under 35 U.S.C. §112, second paragraph, is rendered moot, thereby simplifying issues for Appeal. Also, Appellants respectfully submit that canceling claim 2 will simplify issues for Appeal. Changing the dependency of claims 19, 25 and 26 is necessary due to the cancellation of claim 2.

SUMMARY OF INVENTION

The invention relates to methods for reducing wrinkles/signs of aging comprising applying compositions containing effective amounts of specific silicone polymers directly to skin comprising wrinkles/signs of aging. (Specification at page 3, lines 18-21). In the invention methods, the specific silicone polymers are grafted silicone polymers comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting a main chain of the polymer and the other being grafted to the main chain, wherein the grafted silicone polymer is a polymer with a polysiloxane backbone

grafted by at least one non-silicone organic monomer and comprises, in its structure, the unit of following formula (IV):

M

$$--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{a}----\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{b}--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{c}--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{c}$$

$$(IV)$$

in which the G₁ groups, which are identical or different, represent hydrogen or a C₁.C₁₀ alkyl group or alternatively a phenyl group; the G₂ groups, which are identical or different, represent a C₁-C₁₀ alkalene group; G₃ represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G₄ represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0. (Specification at page 10, lines 3-15).

ISSUE

Whether The Pending Claims Are Obvious Over <u>Kumar</u> alone (claims 1, 3, 17-19, 24-29 and 31-33) or in combination with <u>Hasenoehrl</u> (claims 21, 22, 30, 35, 37-39, 41-45 and 47) or with <u>Delrieu</u> (claims 20, 34, 36, 40 and 46).

GROUPING OF CLAIMS

The claims do not stand or fall together. Each claim stands individually, and in the argument section provided below Appellants explain why the claims are each separately patentable, one from the other.

ARGUMENT

The claimed invention relates to methods for reducing wrinkles/signs of aging comprising applying compositions containing effective amounts of specific silicone polymers directly to skin comprising wrinkles/signs of aging. The required silicone polymer is a grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting a main chain of the polymer and the other being grafted to the main chain, wherein the grafted silicone polymer is a polymer with a polysiloxane backbone grafted by at least one non-silicone organic monomer and comprises, in its structure, the unit of following formula (IV):

$$---\left(---\stackrel{G_{1}}{\underset{|}{\text{Si}}}-O--\right)_{a}-----\left(--\stackrel{G_{1}}{\underset{|}{\text{Si}}}-O--\right)_{b}--\left(--\stackrel{G_{1}}{\underset{|}{\text{Si}}}-O--\right)_{c} \qquad \text{(IV)}$$

It is undisputed that <u>Kumar</u> does not expressly teach or suggest reducing wrinkles/signs of aging by applying compositions containing effective amounts of the claimed silicone polymers directly to wrinkles/signs of aging: <u>Kumar</u> is silent concerning wrinkles and signs of cutaneous aging, let alone methods to effect their reduction. Given

<u>Kumar</u>'s silence concerning the very subject matter to which the claimed methods are directed, <u>Kumar</u> cannot, as a matter of law, teach or suggest the claimed invention.

To attempt to compensate for <u>Kumar</u>'s complete failure to teach or suggest the invention methods, the Examiner asserts that (1) <u>Kumar</u> discloses wrinkle reducing- and signs of cutaneous aging reducing- effective amounts because the effective amounts recited in the present specification encompass amounts disclosed by <u>Kumar</u>; (2) <u>Kumar</u> discloses that his silicone polymers possess moisture-retaining properties, leading the Examiner to conclude that because moisturization leads to skin hydration/plumping and because skin hydration/plumping leads to reducing wrinkles, <u>Kumar</u> must relate to wrinkle reduction; and (3) all skin, once out of childhood, contains wrinkles and/or other signs of aging, so application of <u>Kumar</u>'s silicone polymers to any skin must result in wrinkle reduction. As explained below, however, such assertions do not form a sufficient basis for a proper § 103 rejection.

Regarding (1), the mere fact that <u>Kumar</u> may suggest amounts which could theoretically be encompassed with the claims does not mean that the prior art discloses "effective amounts" as required by these claims. <u>See, Abbott Laboratories v. Baxter</u>

<u>Pharmaceutical Products, Inc.</u>, 67 U.S.P.Q.2d 1191 (Fed. Cir. 2003). As noted above, <u>Kumar</u> does not relate in any way to reducing wrinkles or signs of aging. Thus, one skilled in the art, seeking methods for reducing wrinkles/signs of aging, would not have been motivated by <u>Kumar</u> to apply compositions containing the claimed silicone polymers directly to the wrinkles/signs of aging with the expectation that such wrinkles/signs of aging would be reduced regardless of the amounts disclosed by <u>Kumar</u>. Because <u>Kumar</u> does not provide

such motivation, <u>Kumar</u> cannot disclose "effective amounts" for reducing wrinkles/signs of aging.

F1.

Regarding (2), moisturization counters dryness. (See, Tab A attached hereto).

Dryness is not one of the signs of cutaneous aging addressed by the invention methods. (See, specification at page 3, lines 3-9). Accordingly, the mere fact that <u>Kumar</u> briefly suggests that his compositions contain moisturizing properties is not relevant to the invention methods.

Regarding (3), Applicants respectfully submit that this assertion is improper for several reasons. First, this type of "inherency" assertion or analysis is improper for a rejection under §103. The question is whether <u>Kumar</u> teaches or suggests the invention methods. As noted above, <u>Kumar</u> is silent concerning such methods. Second, the Examiner does not provide any factual support for this assertion. Such an unsupported assertion cannot form a proper basis for a §103 rejection. Finally, this assertion is incorrect: not all skin exhibits wrinkles/signs of aging once out of childhood. It is Applicants' belief that those who avoid causes of wrinkles/signs of cutaneous aging including sun exposure and deleterious activities (e.g., smoking) generally exhibit wrinkles/signs of aging chronologically later.

In summary, the invention methods relate to reducing wrinkles/signs of aging by applying compositions containing effective amounts of the claimed silicone polymers directly to wrinkles/signs of aging. <u>Kumar</u> is silent concerning wrinkles, signs of aging and their reduction and, thus, cannot render the claimed invention obvious.

In view of the above, Appellants respectfully submit that the § 103 rejection based solely upon <u>Kumar</u> is improper and should be withdrawn.

The secondary references, <u>Hasenoehrl</u> and <u>Delrieu</u>, do not compensate for <u>Kumar</u>'s deficiencies. <u>Hasenoehrl</u> is cited merely for its disclosure of caffeine, and <u>Delrieu</u> for its disclosure of plant proteins. Neither of these references relates in any way to applying the claimed polymers to wrinkles/signs of cutaneous aging to effect their reduction.

In view of the above, Appellants respectfully submit that the present claims are in condition for allowance, and that the pending rejection should be REVERSED.

Each dependent claim similarly points out and describes a patentable invention neither disclosed nor suggested by the applied prior art. These claims themselves are separately patentable.

Claims 17, 18, 24 and 36-47, each separately patentable, further require the presence of specified silicone polymers. Nowhere does <u>Kumar</u> or the secondary references describe or allude to these particular types of silicone polymer as being significant, nor do the cited references describe or suggest the claimed benefits resulting from the use of silicone polymers. These claims are free of the cited art.

Claims 19, 25, 26 and 31-33, each separately patentable, further specify the amount of silicone polymer present. None of the cited art teaches or suggests using compositions having these specific amounts of silicone polymer present to effect the claimed benefits. Thus, these claims are free of the cited art as well.

Claims 20-22, 30, 34 and 35, each separately patentable, are composition claims requiring the presence of the claimed silicone polymers as well as specified additional ingredients. None of the cited art teaches or suggests compositions combining the specific silicone polymers and the specific additional ingredients, or any benefits resulting from such compositions. These claims are free of the cited art.

Claims 27-29, each separately patentable, require allowing the claimed silicone polymer to remain on the sign of aging to which it is directly applied until it forms a film.

None of the cited art discloses applying a composition containing the claimed silicone polymers directly to a sign of aging in this manner. Thus, these claims are free of the cited art as well.

Accordingly, in view of the above remarks and reasons explaining the patentable distinctness of the presently appealed claims over the applied prior art, Appellants request that the Examiner's rejections all be REVERSED.

Respectfully submitted,

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APPENDIX

Claim 1. A method for reducing the signs of cutaneous aging, comprising applying onto skin comprising signs of cutaneous aging a composition comprising an amount of at least one grafted silicone polymer effective to reduce signs of cutaneous aging, wherein said grafted silicone polymer comprises a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting a main chain of the polymer and the other being grafted to the main chain, wherein the grafted silicone polymer is a polymer with a polysiloxane backbone grafted by at least one non-silicone organic monomer and comprises, in its structure, the unit of following formula (IV):

$$--\left(--\begin{matrix} G_{1} \\ S_{1} \\ S_{1} \\ G_{2} \end{matrix}\right)_{a} ---\left(--\begin{matrix} G_{1} \\ S_{1} \\ S_{1} \\ G_{1} \end{matrix}\right)_{b} --\left(--\begin{matrix} G_{1} \\ S_{1} \\ S_{1} \\ G_{2} \end{matrix}\right)_{m-S-G_{4}}$$
(IV)

in which the G₁ groups, which are identical or different, represent hydrogen or a C₁₋C₁₀ alkyl group or alternatively a phenyl group; the G₂ groups, which are identical or different, represent a C₁-C₁₀ alkalene group; G₃ represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G₄ represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 3. A method for reducing wrinkles comprising applying onto skin comprising wrinkles a composition comprising a wrinkle-reducing effective amount of at least one grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting a main chain of the polymer and the other being grafted to the main chain, wherein the grafted silicone polymer is a polymer with a polysiloxane backbone grafted by at least one non-silicone organic monomer and comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 - C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim17. The method of Claim 1, wherein the unit of formula (IV) has at least one of the following:

- G₁ is a C₁-c₁₀ alkyl group;
- n is not zero and G₂ is a divalent C₁-C₃ group;
- G₃ is a polymeric group prepared by the (homo) polymerization of at least one monomer comprising a carboxylic acid group and having ethylenic unsaturation;
- G_4 is a polymeric group prepared by the (homo) polymerization of at least one (C_1 - C_{10}) alkyl (meth) acrylate monomer.

Claim 18. The method of Claim 17, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly ((meth)acrylic acid) and poly (alkyl (meth) acrylate).

Claim 19. The method of Claim 1 or 3, wherein the grafted silicone polymer comprises from 0.03 to 25% of the total weight of the composition.

Claim 20. A composition comprising, in a physiologically acceptable medium, (1) a wrinkle-reducing effective amount of at least one grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting the main chain of the polymer and the other being grafted to the said main chain and (2) one or more plant proteins.

Claim 21. A composition comprising, in a physiologically acceptable medium, (1) a wrinkle-reducing effective amount of at least one grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting the main chain of the polymer and the other being grafted to the said main chain and (2) one or more slimming, firming, antiglycant and/or vasoprotective compounds.

Claim 22. The composition of Claim 21, wherein the compounds are selected from the group consisting of: a horse chestnut extract, an ivy extract, a butcher's broom extract, a *Bupleurum chinesis* extract, an algal extract, caffeine and rutinyl salts.

Claim 24. The method of Claim 17, wherein the unit of formula (IV) has all of the following characteristics:

- G_1 is a C_1 - C_{10} alkyl group;
- n is not zero and G₂ is a divalent C₁-C₃ group;
- G₃ is a polymeric group prepared by the (homo) polymerization of at least one monomer comprising a carboxylic acid group and having ethylenic unsaturation;
- G_4 is a polymeric group prepared by the (homo)polymerization of at least one (C_1 - C_{10}) alkyl (meth) acrylate monomer.
- Claim 25. The method of Claims 1 or 3, wherein the grafted silicone polymer comprises from 0.3 to 6% of the total weight of the composition.
- Claim 26. The method of Claims 1 or 3, wherein the grafted silicone polymer comprises approximately 2% of the total weight of the composition.
- Claim 27. The method according to Claim 1, further comprising allowing said composition to remain on the skin after said applying, thereby forming a film.
- Claim 28. The method according to Claim 1, further comprising allowing said composition to remain on the skin after said applying, thereby forming a film.
- Claim 29. The method according to Claim 1, further comprising allowing said composition to remain on the skin after said applying, thereby forming a film.

Claim 30. The composition according to Claim 21, wherein the slimming, firming antiglycant and/or vasoprotective compound is selected from the group consisting of phosphodiesterase inhibitors, 1-hydroxyalkylxanthines, caffeine citrate, theophylline, theobromine, acefylline, aminophylline, chloroethyltheophylline, diprophylline, diniprophylline, etamiphylline, xanthine, caffeine, silanol, compounds of natural origin comprising xanthine bases; tea extract, coffee extract, guarana extract, maté extract, cola (Cola nitida) extract, the dry extract of guarana (Paulina sorbilis) fruit, ephedrine, plant extracts of Garcinia cambogia, Bupleurum chinensis extracts, extracts of English ivy (Hedera helix), extracts of mountain tobacco (Arnica montana L), extracts of rosemary (Rosmarinus officinalis), extracts of marigold (Calendula officinalis), extracts of sage (Salvia officinalis L), extracts of ginseng (Panax ginseng), extracts of St John's Wort (Hypericum perforatum), extracts of butcher's broom (Ruscus aculeatus L), extracts of meadowsweet (Filipendula ulmaria L), extracts of cat's whiskers (Orthosiphon stamineus Benth), extracts of birch (Betula alba), Ginkgo biloba extracts, horsetail extracts, horse chestnut extracts, cangzhu extracts, Chrysanthellum indicum extracts, Armeniacea extracts, Atractylodis extracts, Platicodon extracts, Sinommenum extracts, Pharbitidis extracts, Flemingia extracts, Coleus extracts, extracts of C. forskohlii, extracts of C. blumei, extracts of C. esquirolii, extracts of C. scuttellaroides, extracts of C. xanthantus, extracts of C. barbatus, extracts of Coleus barbatus root, forskolin, Ballota extracts, extracts of Guioa, extracts of Davallia, extracts of Terminalia, extracts of Barringtonia, extracts of Trema, extracts of Antirobia, algal extracts, red alga (Gelidium cartilagineum) extract, Laminaria digitata extract, protamines, flavonoids, ruscogenins, esculosides, aescine, horse chestnut, nicotinates, hesperidin methyl chalcone, essential oils of lavender, essential oils of rosemary, the disodium salt of rutinyl

sulphate, *Centella asiatica*, *Siegesbeckia* extracts, yeast extracts of *Saccharomyces* cerevisiae, silicon, amadorine, ivy extract, and mixtures thereof.

Claim 31. The method of claim 18, wherein the grafted silicone polymer comprises from 0.03 to 25% of the total weight of the composition.

Claim 32. The method of claim 18, wherein the grafted silicone polymer comprises from 0.3 to 6% of the total weight of the composition.

Claim 33. The method of claim 18, wherein the grafted silicone polymer comprises approximately 2% of the total weight of the composition.

Claim 34. A composition comprising, in a physiologically acceptable medium, (1) a signs of cutaneous aging reducing effective amount of at least one grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting the main chain of the polymer and the other being grafted to the said main chain and (2) one or more plant proteins.

Claim 35. A composition comprising, in a physiologically acceptable medium, (1) a signs of cutaneous aging reducing effective amount of at least one grafted silicone polymer comprising a polysiloxane portion and a portion comprising a non-silicone organic chain, one of the two portions constituting the main chain of the polymer and the other being grafted to the said main chain and (2) one or more slimming, firming, antiglycant and/or vasoprotective compounds.

Claim 36. The composition of claim 20, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 - C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 37. The composition of claim 21, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 . C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be

between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 38. The composition of claim 22, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

$$--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{a}-----\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{b}--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{c}--\left(--\stackrel{G_{1}}{\overset{}{\overset{}{\text{Si}}}}-O--\right)_{c}$$

$$(IV)$$

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 - C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 39. The composition of claim 30, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 - C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 40. The composition of claim 34, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 - C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 41. The composition of claim 35, wherein the grafted silicone polymer comprises, in its structure, the unit of following formula (IV):

in which the G_1 groups, which are identical or different, represent hydrogen or a C_1 . C_{10} alkyl group or alternatively a phenyl group; the G_2 groups, which are identical or different, represent a C_1 - C_{10} alkalene group; G_3 represents a polymeric group prepared by the (homo)polymerization of at least one anionic monomer with ethylenic unsaturation; G_4 represents a polymeric group prepared by the (homo)polymerization of at least one hydrophobic monomer with ethylenic unsaturation; m and n are, independently of one another, equal to 0 or 1; a is an integer ranging from 0 to 50; b is an integer which can be between 10 and 350 and c is an integer ranging from 0 and 50, with the proviso that one of the parameters a and c is other than 0.

Claim 42. The composition of claim 36, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).

Claim 43. The composition of claim 37, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).

Claim 44. The composition of claim 38, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).

Claim 45. The composition of claim 39, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).

Claim 46. The composition of claim 40, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).

Claim 47. The composition of claim 41, wherein the grafted silicone polymer corresponding to the formula (IV) is a polydimethylsiloxane to which are grafted, via a thiopropylene connecting link, mixed polymer units comprising poly((meth)acrylic acid) and poly (alkyl (meth)acrylate).





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The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

moisturizer

SYLLABICATION: mois·tur·iz·er

PRONUNCIATION: □ mois'chə-rī'zər

NOUN: A cosmetic lotion or cream applied to the skin to counter dryness.

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